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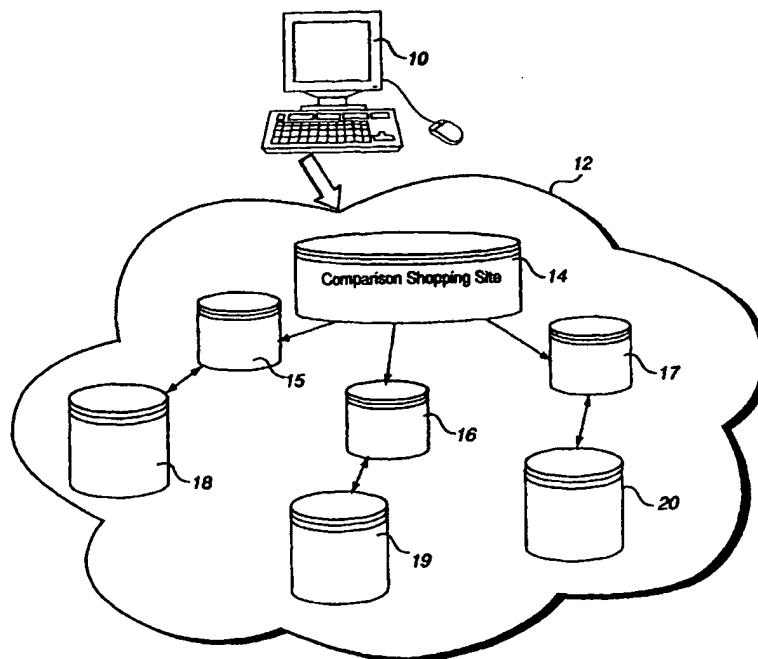
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(54) Title: WEB SHOPPING DATABASE METHOD



(57) Abstract: A method of providing comparison price shopping on the Internet is disclosed. In the disclosure, manufacturer's price list is maintained in a private database, a portion of which is designated as public-disclosure pricing. The public disclosure pricing in the private database is periodically and automatically replicated to a public database accessible to the public.

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WEB SHOPPING DATABASE METHOD

FIELD OF THE INVENTION

This invention relates to network databases and more particularly to Internet access to price information located in web merchant databases.

5 BACKGROUND AND SUMMARY OF THE INVENTION

The Internet has provided a medium for users to gain convenient access to price information from many different merchants whose products and services are offered on the web. As is now commonly understood, users can access the Internet, and thereon access many web merchants' websites, to
10 retrieve price information for virtually any product or service. The web shopping situation is, however, in a somewhat developmental and transitional state. There is no standard methodology for web pages to provide pricing information, but each web page designer may use a wide diversity of different methods and techniques to present the price information to the user. This
15 diversity of price presentation makes it difficult for users to comparison shop among the different web pages that are offering a common product or service. Of course, sometimes the difficulty in comparison shopping on the web is intentionally designed into websites in order to discourage users from such comparison shopping.

20 Other problem areas exist in the web shopping scenario for both shoppers and merchants. It is not altogether easy to find all of the website shops that carry a common good or service. Neither is it always straightforward to find products or services in each particular web shop. Issues relating to comparison shopping between shops, comparison shopping
25 between goods, and transactional security, safeguarding proprietary information, etc. further cloud the web shopping situation.

The present invention addresses one of the problem areas in the web shopping situation, namely, comparison shopping problems. The present invention provides a user with a straightforward comparison shopping opportunity, while maintaining the merchants' ability to set, adjust, and negotiate prices. One example prior attempt to solve the described problem is a former stand-alone application known as Jango, which is now incorporated within the Excite search engine. This solution makes searching for Web merchants' products possible by having them register with the search engine's web merchant area. It is obviously required of the web merchant to register with Excite if they want to be a part of it, and thus open up their price databases to Excite. The solution doesn't however treat the problem of merchants not willing to be a part of this parallel comparison-shopping search but still wishing to have certain of their prices considered by the same inquiring users.

The web shopping database model according to an example embodiment of the present invention deals with web shopping merchants' and web shoppers' access to the merchants' price lists. The example method suggests a solution for a more open access to the manufacturers' price databases by having a part of those databases freely open for public access (or replicated to a public database). This gives the merchants the control over which portions of their manufacturers databases are revealed to the public, but still allows the users to compare publicly available prices released by the manufacturers.

BRIEF DESCRIPTION OF THE DRAWINGS

These, as well as other objects and advantages of this invention, will be more completely understood and appreciated by careful study of the following more detailed description of a presently preferred exemplary

embodiment of the invention taken in conjunction with the accompanying drawings, of which:

FIGURE 1 is a schematic representation of one example embodiment of the present invention employing separate, public and private databases;

5 FIGURE 2 is another example embodiment of the present invention employing embedded public and private databases;

FIGURE 3 is another example embodiment of a common website employing public and private databases in accordance with the present invention; and

10 FIGURE 4 is another example embodiment of the present invention employing different websites containing public and private databases in accordance with the present invention.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENT

15 The present invention provides a method for users to gain access to comparison pricing between multiple merchants by providing a comparison shopping site that accesses multiple public databases hosted by different web merchants. The present invention gives users the comparison shopping techniques that they desire, gives merchants control over pricing information
20 that is released to the public, and gives merchants another method for attracting customers to their websites.

 The preferred example of the present invention gives web shoppers the ability to efficiently compare product prices from a variety of shops. On the other hand, the present invention also protects web shopping merchants who
25 are not willing to have their price databases compared publicly due to competition issues, but still wish to attract web shoppers by the public disclosure of certain competitive prices. Although the two intentions (as

between the shoppers and the merchants) appear to be in contradiction, the present invention provides an efficient resolution to the issues.

Figure 1 illustrates an example embodiment of the present invention. A user at workstation 10 accesses the network 12 that comprises a number of websites including comparison shopping site 14. The network 12 could be, but need not be, the Internet and the comparison shopping site 14 can be one website on the Internet. The comparison shopping site 14 accesses other websites when a user at the workstation 10 enters certain goods and services comparison shopping criteria. In the example of Figure 1, the comparison shopping site 14 has received a search request from user at workstation 10 and accesses public databases 15, 16 and 17 at other websites of the network 12 in order to retrieve price information for the goods and services requested. The websites 15, 16 and 17 are publicly accessible websites and thus could have been directly accessed by the user of the workstation 10 through the network 12 on an individual basis.

Instead, to provide efficiency in the users search efforts, the user accesses the comparison shopping site 14, which does the work of accessing the public databases 15, 16 and 17 at websites of the network 12 to offer the goods and services requested. The public databases 15, 16 and 17 contain price information provided by merchants, which information the merchants wish to be made available to users for comparison shopping purposes.

The comparison shopping site 14 can be a stand-alone application at the workstation 10 or can be a mechanism incorporated within a larger information retrieval engine such as a traditional search engine on the Internet.

Also incorporated into the network 12 are private databases 18, 19 and 20. Web shopping merchants maintain these private databases 18, 19 and 20, which are not available on an unrestricted basis to users of the network 12. Instead, private databases 18, 19 and 20 contain the private product pricing information that each merchant has to offer for the particular goods and services offered by the merchant. Thus, for example, merchants that offer particular office supply goods will maintain independent databases 18, 19 and

20 with the pricing information for three respective merchants of those goods. Each of the databases 18, 19 and 20 are private to the respective merchants and are not publicly available to either the public or the other merchants. The merchants that maintain the private databases 18, 19 and 20 identify portions
5 of their databases containing pricing information that the merchants are comfortable providing publicly to network users for comparison shopping purposes. That set of prices may be the entire private database, but more likely will be a subset of the pricing information in the private database that the merchant feels will be satisfactorily competitive to attract the user to the
10 merchants' website, while still providing the merchant with a good profit incentive.

The set of information that each merchant maintaining the private databases 18, 19 and 20 identifies for public dissemination is automatically replicated into respective public databases 15, 16 and 17. As described
15 earlier, once the pricing information is provided to the public databases 15, 16 and 17, it is available to the comparison shopping site 14 which can retrieve the pricing information and provide it in the comparison format to the user of the workstation 10. Note that once the pricing information is provided in the public databases 15, 16 and 17, it can be placed in a standard format such that
20 any comparison shopping site can access the public pricing information without requiring custom or stand-alone software in order to access the public databases. Further, no merchant is required to enroll in a particular program in order to provide comparison prices to any end user desiring to use the network 12. That is, once a merchant provides the public database 15, 16 and 17, etc.
25 onto the network 12, the merchant can without further investment, begin to attract users to the merchants website through the comparison shopping techniques.

By having a part of the merchants' private databases 18, 19 and 20 reserved for replication to the public databases 15, 16 and 17, merchants do
30 not need to provide two different databases on the network that must be independently maintained. Thus, the merchants do not have to provide double

administration of their network sites, nor do they have to ensure manually that the price information in their public databases is consistent with the price information in the private databases. Instead, whenever a merchant wishes to advertise/compare themselves by their products or services, the merchants simply make a change in the private database prices. When the next automatic replication to the public database occurs, the updated pricing will automatically download to the public database from the private database and thus the private databases 15, 16 and 17 will automatically and transparently reflect the public price information desired by the merchant to be downloaded from the private databases 18, 19 and 20.

The present implementation provides the merchants with full control of which prices they wish to have available for comparison shopping and also which products they wish to have available for comparison shopping in order to attract web shoppers. On the other side of the transaction, users of the network are given easy and convenient comparison shopping techniques such that the user can retrieve and compare prices of multiple public databases of multiple merchants quickly and easily without being concerned that the only merchants who are giving comparison prices are those who have pre-enrolled in some comparison shopping program.

Another example embodiment of the present invention is shown in Figure 2. Although Figure 2 is an alternative to the embodiment of Figure 1, it is less attractive because it does not provide the same level of security to the merchants that the embodiment of Figure 1 provides. In particular, in Figure 2, the user of the workstation 10 accesses the network 12 where comparison shopping site 14 resides, just as in Figure 1. In Figure 2, however, the merchants' private databases 21, 22 and 23 have embedded within them public databases 24, 25 and 26 which are accessible by the comparison shopping site 14. The public databases 24, 25 and 26 are freely accessible by the comparison shopping site 14 just as were the public databases 15, 16 and 17 of Figure 1. The embodiment of Figure 2 also operates like that of Figure 1 in that the public portions of the databases 24, 25 and 26 are replications of

portions of the private databases 21, 22 and 23 which have been pre-designated by the merchant to be publicly available pricing information. The private databases 24, 15 and 26 are automatically updated and replicated transparently and without user intervention such that the pricing information
5 in the public databases 24, 25 and 26 exactly replicate the information pre-designated by the merchant from the private databases 21, 22 and 23.

The downside of Figure 2 over Figure 1 is that the comparison shopping site 14 is accessing a portion of a common website, such as the website containing databases 21/24. This poses more security risks in that the
10 user may be able to maneuver through security controls and obtain access to the private pricing information in the private database 21, rather than remaining in the public database 24. The artisan will understand that certain firewalls and other safeguards can be provided to maintain the propriety of the private database 21 while providing access to the public database 24. Still, the
15 embodiment of Figure 1 provides greater security over that of Figure 2 in that the comparison shopping site 14 need only access sites containing the public databases 15, 16 and 17, without obtaining access to the sites 18, 19 and 20.

The present invention can be employed by any web shopping merchant that desires to attract customers using the public database/private database
20 methodology. An example of a comparison shopping point is a so-called shopping mall where many web merchants exhibit their products and services. The comparison shopping site 14 provides smaller web shops corresponding to each of the web shopping merchants and provides comparison pricing for the various web shops in the web mall. By exhibiting competitive products
25 contained in the respective public databases 15, 16 and 17 (or 24, 25 and 26), the web merchants attract web shoppers to the web merchant websites for information gathering and ordering.

Figure 3 illustrates another example of the present invention and a method of providing the present invention. In Figure 3, the user of the
30 workstation 10 accesses a website 31 via the Internet 30. The website 31 contains a web server 32, which the artisan will understand to provide access

Thus, replication facility 38 includes programming provided by the merchant pre-designating those portions of the private database 37 which are to be made available to the public. When the replication facility 38 automatically and transparently begins the replication procedure, it goes to
5 those portions of the private database 37 which have been pre-designated for public dissemination, reads those portions of the private database 37 and loads those portions of the private database 37 into the public database 36. Those portions of the private database 37 which are not designated for public dissemination are not read by the replication facility 38 and thus do not enter
10 the public database 36.

As one can see from the embodiment of Figure 3, when the merchant changes the private database 37 through the access control of 34, shortly thereafter that change in the private database will be reflected in the public database 36 assuming that the price information is one which the merchant has
15 previously designated as being a publicly available price. Thus, the merchant can maintain various prices in the private database 37 which are not publicly available and are not loaded in the public database 36. The merchant can change and adjust publicly and privately maintained portions of the private database 37 such that the private portions of the database 37 remain private
20 and the public portions of the private database 37 are replicated by the replication facility 38 into the publicly available database 36.

The public database 36 is freely accessible by the user of the workstation 10 via the Internet 30, server 32, and search facility 33. On the other hand, the private database 37 is protected from access by unauthorized
25 users via the access control 34.

Figure 4 illustrates a still further example embodiment of the present invention in which the public and private database portions of the present invention are maintained on different websites. In Figure 4, the user of the workstation 10 accesses the website via the Internet 30. If the user is simply a
30 public user looking to comparison shop, the user can access website 40 containing the public database 46 either directly or through a comparison

shopping site 14. Website 40 includes a server 44 which provides traditional access to the user through the Internet 30. The server 44 gives the user access to the public database 46 via the search facility 45. Thus, when a user of workstation 10 desires a price for a particular web merchant maintaining the public database 46, the user accesses the public database 46 via the Internet, server 44, search facility 45, and public database 46. From the public database 46, the user will receive the publicly available price information provided by the web merchant.

The other half of the embodiment shown in Figure 4 is the private website 41 in which the private database 50 is maintained. A non-authorized user can be restricted from the private database 50 by traditional techniques of access control using the server 47. Alternatively, a block similar to access control 34 of Figure 3 can be included in the website 41 to block access to the private database 50 except to those users which are authorized to do so. Once the user accesses server 47 and is determined to be authorized to access private database 50 (such as the merchant or the merchants' agent), the authorized user can connect to and modify the private database 50 via the search facility 48. As before, the private database 50 contains information regarding the pricing of products by the web merchant which are both proprietary to the web merchant and others which are to be publicly disseminated. Those prices which are private and those prices which are publicly available are pre-designated by the merchant. Replication facility 49 reads those portions of the private database 50 which have been pre-designated for public access and automatically and transparently, without user input, will periodically address server 44 via server 43 in the Internet 30 by communication paths 43 and 42 to update and download those portions of the private database 50 which have been pre-designated for public dissemination into the public database 46. Like the embodiment of Figure 3, the replication facility function 49 will provide replication of pre-designated public portions of the private database 50 into the public database 46 for access by the public

at large, without requiring the web merchant to maintain the public database 46 on top of the private database 50.

5 While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiment, but on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

WHAT IS CLAIMED IS:

1. A website (31) for a web merchant including a network server (32) for communicating via a public network (30), comprising:
 - a public database (36) in communication with the network server (32)
 - 5 and being freely accessible by the public via the public network (30) to provide price information for commercial goods or services offered by said web merchant; and
 - a private database (37) having only security restricted access, said private database having a communication channel to said public database and
 - 10 including a replication facility (38) to automatically, and without user prompt, replicate only pre-designated portions of said private database into said public database via the communication channel, said pre-designated portions identifying at least said price information for said commercial goods or services.
- 15 2. A method according to claim 1, further including:
 - a plurality of public databases (24-26) freely accessible by the public;
 - and
 - a plurality of private databases (21-23) having only security restricted access, said private databases having at least one communication channel to
 - 20 corresponding ones of said public databases and each including a replication facility to automatically, and without user prompt, replicate only pre-designated portions of said private databases into said corresponding ones of said public databases via the communication channel, said pre-designated portions identifying at least said price information for said commercial goods
 - 25 or services.
3. A method according to claim 1 further including:
 - an update facility associated with the private database to change the price information such that when the replication facility next automatically replicates the pre-designated portions of the private database into the public

database via the communication channel, the replication facility will automatically replace previously downloaded price information in the public database with the changed price information.

4. A method according to claim 1 further including:

5 a link associated with the network server for establishing communication with a comparison shopping site of the public network to provide the pre-designated portions identifying at least the price information for the commercial goods or services to the comparison shopping site.

5. A network for a web merchant, comprising:

10 a first network server (44) for communicating via a public network (30);

a public database (46) in communication with the first network server and being freely accessible by the public via the public network to provide price information for commercial goods or services offered by said web
15 merchant;

a second network server (47) for communicating with at least said first network server; and

a private database (50) in communication with the second network server and with the public database via the first and second network servers,
20 and providing only security restricted access to said private database, said private database including a replication facility (49) to automatically replicate only pre-designated portions of said private database into said public database, said pre-designated portions identifying at least said price information for said commercial goods or services.

25 6. A method according to claim 1 further including:

a plurality of first and second network servers (44 and 47) associated with corresponding ones of a plurality of public (15-17) and private databases (18-20), each of said public databases being freely accessible by the public and

each of said private databases providing only security restricted access to said private databases; and

5 said private databases having at least one communication channel to corresponding ones of said public databases and each including a replication facility (38) to automatically, and without user prompt, replicate only pre-designated portions of said private databases into the corresponding ones of the public databases via the communication channel, said pre-designated portions identifying at least the price information for the commercial goods or services.

10 7. A method according to claim 6 wherein:
the private databases provide said security restricted access via the public network.

15 8. A method according to claim 5 wherein:
the private database provides said security restricted access via a private communication link.

9. A method according to claim 6 wherein:
the private databases provide said security restricted access via the public network.

20 10. A method according to claim 5 further including:
an update facility associated with the private database to change the price information such that when said replication facility next automatically replicates said pre-designated portions of said private database into said public database via the communication channel, said replication facility will automatically replace previously downloaded price information in the public
25 database with the changed price information.

11. A method according to claim 6 further including:
links associated with at least the first network servers for establishing communication with a comparison shopping site of said public network to

provide said pre-designated portions identifying at least the price information for the commercial goods or services to the comparison shopping site.

12. A system, comprising:

5 a comparison shopping server (14) being freely accessible by the public via a public network to provide price information for commercial goods or services;

a plurality of first network servers (44 and 47) for communicating via a public network with the comparison shopping server;

10 a plurality of public databases (15-17) in communication with corresponding ones of the first network servers to provide the price information to the comparison shopping server;

15 a plurality of private databases (18-20) in communication with corresponding ones of the public databases via the first network servers, and having only security restricted access, said private databases including replication facilities (38) to automatically replicate only pre-designated portions of the private databases into corresponding ones of said public databases, said pre-designated portions identifying at least said price information for the commercial goods or services.

20 13. A system as in claim 12 further including a plurality of second network servers for communicating between corresponding ones of the plurality of private databases and corresponding ones of the first network servers, the plurality of private databases being in communication with corresponding ones of the second network servers and with corresponding ones of the public databases via the first and second network servers.

25 14. A system as in claim 12 wherein:

the private databases provide said security restricted access via a private network.

15. A system as in claim 12 wherein:

the private databases provide said security restricted access via the public network.

16. A system as in claim 12 further including:

5 an update facility associated with the private databases to change the price information such that when said replication facilities next automatically replicate said pre-designated portions of said private databases into said public databases, said replication facilities will automatically replace previously
10 downloaded price information in the public databases with the changed price information.

17. A system as in claim 12 further including:

links associated with at least the first network servers for establishing communication with the comparison shopping site of said public network to provide said pre-designated portions identifying at least the price information
15 for the commercial goods or services to the comparison shopping site.

18. A network access page, comprising:

links to a plurality of publicly accessible databases (46) associated with underlying private databases (50), said private databases including replication facilities (49) to automatically, and without user prompt, replicate
20 only pre-designated portions of said private databases into said publicly accessible databases, said pre-designated portions identifying at least prices associated with commercial goods or services;

a compiler (14) to collect said prices from a plurality of said public databases and to filter said collection of prices into a comparison listing of
25 prices for common ones of said commercial goods or services; and
a user interface (10) to display to a user said comparison listing.

19. A system as in claim 18 wherein:

the private databases provide security restricted access to the private databases via a private network.

20. A system as in claim 18 wherein:

5 the private databases provide security restricted access to the private databases via the public network.

21. A system as in claim 18 further including:

an update facility associated with the private databases to change the price information such that when said replication facilities next automatically
10 replicate said pre-designated portions of said private databases into said public databases, said replication facilities will automatically replace previously downloaded price information in the public databases with the changed price information.

22. A method of maintaining price comparison information on a
15 website, comprising the steps of:

establishing a comparison shopping point (14) on a public network,
establishing a public database (36) freely accessible by the public via the public network,

20 downloading price information from the public database to the comparison shopping point,

establishing a private database (37) having only security restricted access to the public, and

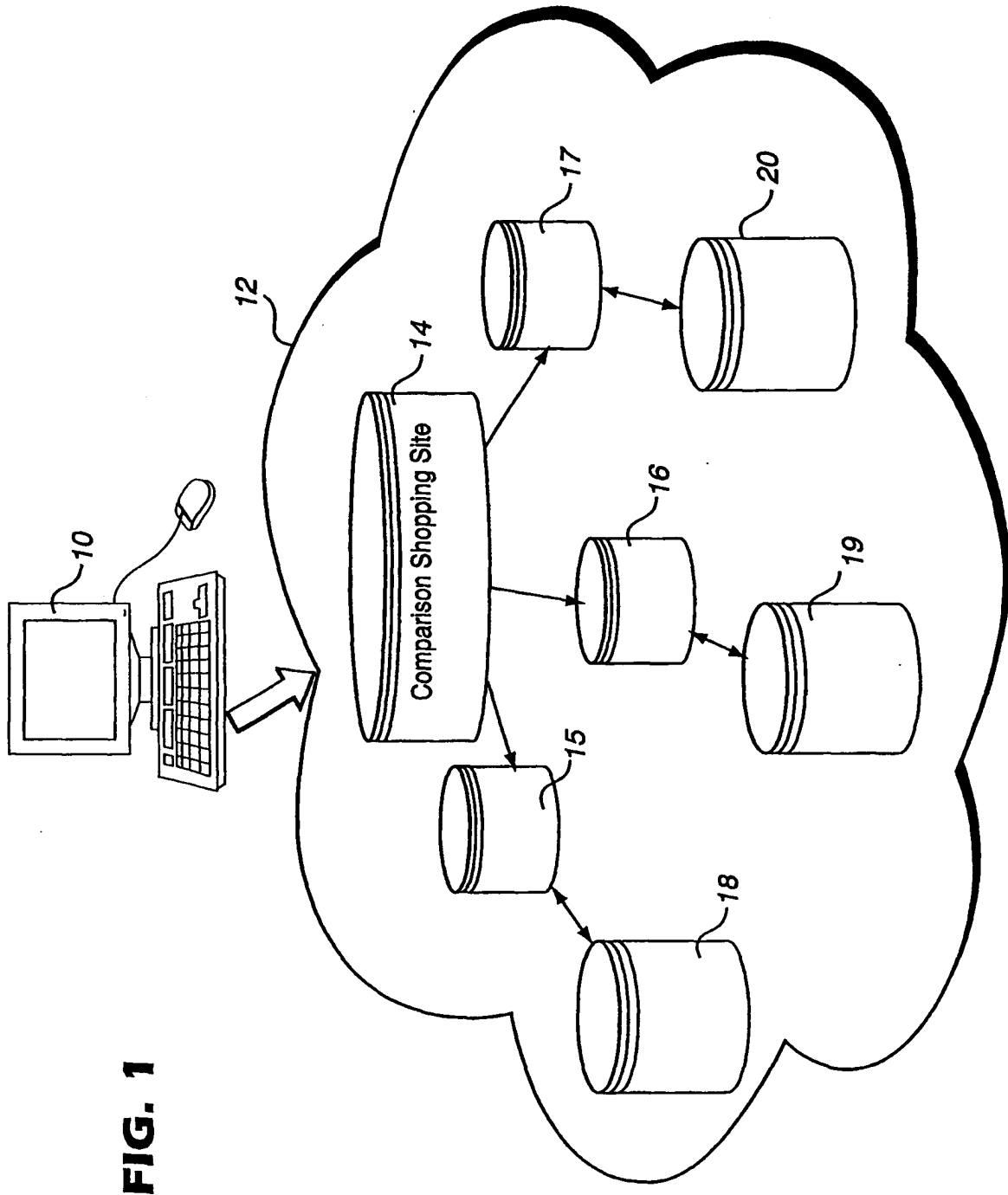
25 at predetermined times, automatically replicating (38) only pre-designated portions of said private database into said public database, said pre-designated portions identifying at least said price information.

23. A method according to claim 22, further including the step of:

updating the private database to change the price information such that at said next predetermined time, said step of automatically replicating will

replace the previously downloaded price information in the public database
with the changed price information.

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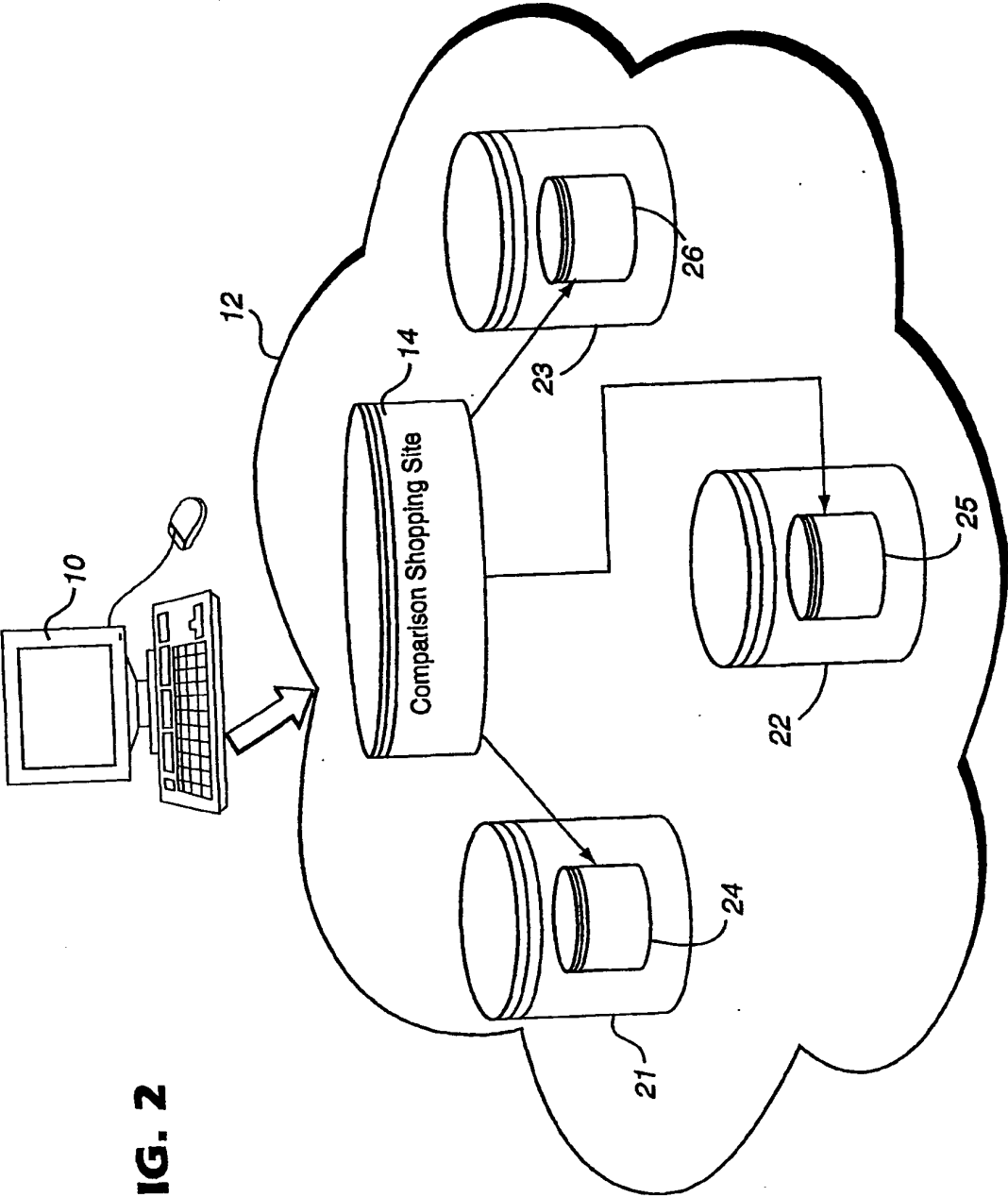


FIG. 2

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FIG. 3